GAATTCGGCACGAGGGCAGACCTTTAGTGAGCACACTTCACTCTGGAACAAAGCTACTGG GCTTCTCTTCTGATGCCATGGATGATGGGCATCAAGAGTCAGCTCTGTACGATGGGCACT ACGAGGAGATTTCTGGCTCTTCAACAATTCCAGTGATAACAGCCAGGAGAACAAACGCT TCCTAAAGTTCAAGGAGGTCTTTTTGCCCTGTGTGTACCTGGTAGTGTTTGTCTTTGGAC TGCTAGGAAACTCCCTGGTTCTGATTATATACATTTTCTACCAGAAGCTGAGGACTCTGA CAGATGTGTTTCTGCTGAACTTGCCCCTGGCTGACCTGGTGTTTGTCTGTACTCTGCCCT TTTGGGCCTATGCAGGCACCTATGAGTGGGTCTTTGGCACAGTCATGTGCAAAACTCTTC GAGGCATGTATACAATGAACTTCTACGTGTCCATGCTCACTCTCACCTGCATCACAGTGG ATCGTTTCATTGTAGTGGTCCAGGCTACCAAGGCCTTCAACCGGCAGGCTAAGTGGAAGA TCTGGGGCCAAGTCATTTGCTCATTTGGGTGGTCTCCCTGTTGGTTTCTTTGCCAC AGATCATCTATGGCCATGTTCAAGATATTGACAAGCTTATCTGTCAGTACCACAGTGAGG AGATATCCACTATGGTTCTTGTTATACAGATGACTCTGGGGTTCTTCCTGCCATTGCTCA CTATGATTCTGTGCTACTCAGGCATTATCAAGACCTTGCTTCATGCTCGAAACTTCCAGA AGCACAAATCTCTAAAGATCATCTTCCTTGTAGTGGCTGTGTTCCTGCTGACCCAGACAC CCTTCAACCTTGCCATGTTAATCCAAAGTACAAGCTGGGAGTACTATACCATAACCAGCT TTAAGTATGCCATCGTAGTGACAGAGGCTATAGCATACTTTCGGGCTTGCCTTAACCCTG TACTTTATGCCTTTGTTGGCTTAAAGTTCCGGAAGAACGTCTGGAAACTTATGAAGGATA TCGGCTGCCTCTCACCTGGGAGTCTCAAGTCAATGGAAGTCTTCTGAGGACAGTTCCA AGACTTGTTCTGCCTCCCACAATGTAGAGACCACCAGTATGTTCCAATTGTAGTAGGCCT TGCCACACTTAGAGAAGTTAATAACAGAATTCTAGGAGCATGGCTGTATCATTTGGATGC AACAAGAAAAGCTTTGCTTATAGCATGTGGAGTATCATGGAGAAGCCTGAC (SEQ ID NO:1)

MDDGHQESALYDGHYEGDFWLFNNSSDNSQENKRFLKFKEVFLPCVYLVVFVFGLLGN SLVLIIYIFYQKLRTLTDVFLLNLPLADLVFVCTLPFWAYAGTYEWVFGTVMCKTLRGM YTMNFYVSMLTLTCITVDRFIVVVQATKAFNRQAKWKIWGQVICLLIWVVSLLVSLPQII YGHVQDIDKLICQYHSEEISTMVLVIQMTLGFFLPLLTMILCYSGIIKTLLHARNFQKHKS LKIIFLVVAVFLLTQTPFNLAMLIQSTSWEYYTITSFKYAIVVTEAIAYFRACLNPVLYAFV GLKFRKNVWKLMKDIGCLSHLGVSSQWKSSEDSSKTCSASHNVETTSMFQL (SEQ ID NO:2)

BOLD = deleted in targeting construct

UNDERLINED = sequence flanking Neo insert in targeting construct

GAATTCGGCACGAGGGCAGACCTTTAGTGAGCACACTTCACTCTGGAACAAGCTACTGG GCTTCTCTCTGATGCCATGGATGATGGGCATCAAGAGTCAGCTCTGTACGATGGGCACT <u>ACGAGGGAGATTTCTGGCTCTTCAACAATTCCAGTGATAACAGCCAGGAGAACAAACGCT</u> TCCTAAAGTTCAAGGAGGTCTTTTTGCCCTGTGTGTACCTGGTAGTGTTTGTCTTTGGAC TGCTAGGAAACTCCCTGGTTCTGATTATATACATTTTCTACCAGAAGCTGAGGACTCTGA CAGATGTGTTTCTGCTGAACTTGCCCCTGGCTGACCTGGTGTTTGTCTGTACTCTGCCCT TTTGGGCCTATGCAGGCACCTATGAGTGGGTCTTTGGCACAGTCATGTGCAAAACTCTTC <u>GAGGCATGTATACAATGAACTTCTACGTGTCCATGCTCACTCTCACCTGCATCACAGTGG</u> <u>ATCGTTTCATTGTAGTGGTCCAGGCTACCAAGGCCTTCAACCGGCAGGCTAAGTGGAAGA</u> TCTGGGGCCAAGTCATTTGCTTGCTCATTTGGGTGGTCTCCCTGTTGGTTTCTTTGCCAC <u>AGATCATCTATGGCCATGTTCAAGATATTGACAAGCTTATCTGTCAGTACCACAGTGAGG</u> AGATATCCACTATGGTTCTTGTTATACAGATGACTCTGGGGTTCTTCCTGCCATTGCTCA CTATGATTCTGTGCTACTCAGGCATTATCAAGACCTTGCTTCATGCTCGAAACTTCCAGA AGCACAATCTCTAAAGATCATCTTCCTTGTAGTGGCTGTTTCCTGCTGACCCAGACAC $\verb|CCTTCAACCTTGCCATGTTAATCCAAAGTACAAGCTGGGAGTACTATACCATAACCAGCT|\\$ TTAAGTATGCCATCGTAGTGACAGAGGCTATAGCATACTTTCGGGCTTGCCTTAACCCTG TACTTTATGCCTTTGTTGGCTTAAAGTTCCGGAAGAACGTCTGGAAACTTATGAAGGATA TCGGCTGCCTCTCACCTGGGAGTCTCAAGTCAATGGAAGTCTTCTGAGGACAGTTCCA AGACTTGTTCTGCCTCCCACAATGTAGAGACCACCAGTATGTTCCAATTGTAGTAGGCCT TGCCACACTTAGAGAAGTTAATAACAGAATTCTAGGAGCATGGCTGTATCATTTGGATGC AACAAGAAAAGCTTTGCTTATAGCATGTGGAGTATCATGGAGAAGCCTGAC (SEQ ID NO:1)

Gene Sequence
Structure *

Size of full-length
cDNA: 1251 bp

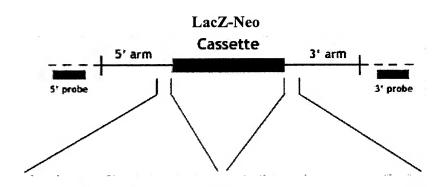
Targeting Vector* (genomic sequence)

Arm L ngth: 5': 1.5 kb

3': 4.5 kb

Targeting Vector
- - - - Endogenous Locus

* N t drawn to scale



5'>AAAGACAGTGGGAAGAAAGAA TGTCACTCAGACATACCCAAATAT AACTTTTAGGTTCTGACTCACAGA TGTTTGCCCCAACAGATGCCATGG ATGATGGGCATCAAGAGTCAGCTC TGTACGATGGGCACTACGAGGGAG ATTTCTGGCTCTTCAACAATTCCA GTGATAACAGCCAGGAGAACAAAC GCTTCCTAAAG<3'

(SEQ ID NO:3)

5'>CAGGCACCTATGAGTGGGTCT TTGGCACAGTCATGTGCAAAACTC TTCGAGGCATGTATACAATGAACT TCTACGTGTCCATGCTCACTCTCA CCTGCATCACAGTGGATCGTTTCA TTGTAGTGGTCCAGGCTACCAAGG CCTTCAACCGGCAGGCTAAGTGGA AGATCTGGGGCCAAGTCATTTGCT TGCTCATTTGG<3'

(SEQ ID NO:4)